



Monthly Statistical Report

Prepared by the Finance, Accounting, and Statistics Department

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APRIL 1990

SUMMARY

April's 1.0 percent, roughly 160 thousand B/D increase in total deliveries was the first year-to-year rise—excepting the weather-related jump last December—since last June. The increase was attributable in part to unusually strong distillate deliveries and a smaller decline in deliveries of "other oils" than has been the trend over the last several quarters.

Gasoline deliveries also contributed to the year-to-year gain with a 1.1 percent increase, their strongest year-to-year comparison so far this year. This was more a reflection of a price-related shift in consumption and deliveries last spring than an indication of renewed strength for gasoline deliveries this year. Kerosine jet fuel deliveries, after a weak first quarter, jumped 5.9 percent, while residual fuel oil deliveries continued to slide as they have since the middle of last year, falling nearly 13 percent, year to year.

April's increase in total deliveries contrasts with the first quarter's unusually large, partly weather-related decline of about 3 percent, the largest since 1983. April's comparative strength helps confirm that the first quarter's decline had overstated the underlying weakness in deliveries; nevertheless, April's increase probably overstates their strength. Though some positive indications in economic data in the past few weeks suggest that the economy may be on somewhat firmer ground than earlier data had suggested, we still estimate that underlying consumption is declining at about a 1 percent rate.

Crude oil production fell 420 thousand B/D in April, with about 350 thousand B/D of the decline occurring in the lower 48. Though oil drilling has recently shown some year-to-year

gains, the rise in natural gas completions and the relative weakness of oil drilling over the past several years have shifted drilling patterns significantly—in the past few quarters, the level of natural gas drilling has roughly equalled that of oil for the first time. As recently as 1985, oil completions outnumbered gas completions by nearly three to one.

Reflecting differing inventory behavior this April versus last, total imports declined in April—following a first quarter in which they had risen nearly 10 percent to the highest quarterly level since 1979. In April of last year, more than 800 thousand B/D of that month's strong imports had ended up in inventory, while this April, inventories rose only about 200 thousand B/D. April's 1.2 percent decline in imports reflected a drop of about 350 thousand B/D in product imports which more than offset the continued growth in crude oil imports of about 250 thousand B/D.

At refineries, input to distillation units was up 0.6 percent over last April. Gasoline output rose from March's levels in line with typical seasonal patterns and roughly equalled output a year ago.

Total stocks rose 6 million barrels during April and ended the month at the highest April level in six years, mainly because of crude oil stocks. Crude oil inventories rose 7 million barrels to 372 million barrels, the highest month-end level since the early 1980s. Total product stocks were stable during April, and at about 685 million barrels, were within the recent historical range for the month. Gasoline stocks declined 8 million barrels, in line with typical patterns for April.

PRODUCT SUPPLIED¹

Gasoline DELIVERIES RISE MORE THAN 1 PERCENT.

For the first time this year, April's gasoline deliveries rose more than 1 percent, year to year. However, this

somewhat higher growth rate was less the result of any spurt in demand this year than of a decrease in gasoline demand last spring related to higher prices.

In April 1989, gasoline consumption and deliveries were dampened by prices which had risen 15 percent from levels earlier that year, lagging several months behind a substantial increase in crude oil prices. The effect on deliveries apparently diminished over the rest of the year as retail prices, after peaking

in May, declined through the end of the year, despite only a slight decline in refiners' crude oil costs. Retail prices this April were slightly lower than those of a year ago.

Although gasoline deliveries' larger increase in April mainly reflects developments a year ago, further evidence has accumulated that consumption has not been as weak as earlier data on

	API ESTIMATES		YEAR-TO-DATE	
	APRIL		APRIL	
	Million B/D	Percent Change	Million B/D	Percent (Change)
Total domestic deliveries	16.7	1.0	17.0	(2.0)
Crude production ²	7.3	(5.4)	7.4	(4.8)
Total imports ²	7.9	(1.2)	8.3	7.0
Stocks (million bbl) ²	1,058	2.9	na	na

deliveries and the economy seemed to indicate. First, economic growth in the first quarter, according to preliminary estimates, was not as weak as might have been extrapolated from the 1.1 percent annualized rate of the fourth quarter. First quarter growth is currently estimated to have been a moderately higher 2 percent.

Second, recently-released data for travel in February showed an unusually large, 5.1 percent increase, more than 2 percentage points greater than the average 2.8 percent increase for all of 1989. Though better-than-usual driving conditions due to unusually mild weather likely accounted for a significant portion of that increase, these data still give no indication of any major weakening in miles traveled so far in 1990. The underlying trend so far this year in miles travelled is estimated to have been about 2.5 percent.

Third, according to data in the most recent Department of Energy *Petroleum Supply Monthly*, February deliveries were stronger than originally estimated. Incorporating these data in the first quarter average yields a deliveries decline of only 0.4 percent, about a percentage point less than previously estimated. All of these indicators suggest that although the underlying trend in gasoline consumption of the past few months did not make any significant upturn, neither did it apparently weaken further from an estimated decline rate of about half a percent.

Distillates

STRONG GAIN REVERSES EARLIER DROP.

Strongly reversing the first quarter's drop of about 5 percent, distillate deliveries in April jumped 6.5 percent

or about 200 thousand B/D. Most of the first quarter's decline had been the result of unusually mild weather nearly 15 percent warmer than one year earlier. April's strong showing, however, does not seem to be easily explainable in terms of shifts in consumption-related factors.

In fact, continued weakness in deliveries might have been expected for the month because of continued mild weather. Nationally, April was about 6 percent warmer than a year ago, but in major heating oil consuming regions it averaged about 10 percent warmer. Though April, falling near the end of the heating season, normally accumulates heating degree days at less than half the rate of January (on a national, population-weighted basis), the warm weather still would have been expected to reduce the year-to-year comparison by about 80 thousand B/D.

It turns out that part of April's large apparent increase in deliveries results from comparison against figures a year ago estimated to have been perhaps 150 thousand B/D below the weather-adjusted trend. Even so, deliveries this April still were unusually strong, perhaps 100 thousand B/D above trend. For the year to date, if adjusted for weather, deliveries would have risen about 2 percent—closer, but still a bit above, the slight but positive growth estimated for consumption.

Residual Fuel Oil

DECLINE CONTINUES.

Deliveries of residual fuel oil fell by 12.6 percent in April, continuing a trend of decline evident in eight of the past nine months. Moderate weather and continued fuel substitution toward natural gas are believed to be responsible for the persis-

tent decline. With temperatures milder than average for the fourth consecutive month, electricity output grew by an estimated one percent, in contrast to growth of 2.8 percent in 1989.

Price differentials between residual fuel oil and natural gas grew slightly during the month after declining in February and March. Low sulfur residual prices firmed at month's end while spot natural gas prices fell moderately, thus continuing a natural gas price advantage over residual fuel oil for those users with switching capability. In recent years, residual fuel use for electricity generation has fallen in April while natural gas use has risen. Last year, for instance, April saw a 31 percent drop in net generation from petroleum products (of which nearly 95 percent was residual fuel) and a 13 percent increase in net generation from natural gas.

While demand conditions for residual fuel oil use in industrial and electric utility sectors have been weak, there is evidence that use of residual fuel as bunker fuel is on the rise. One reason is the growing role of foreign trade in the U.S. economy. Early in 1990, the dollar values of imports and exports continued to grow at double digit rates; there is preliminary evidence that bunker fuel demand has mirrored that growth, possibly rising by 30 to 40 thousand B/D versus last April.

Of particular interest in the foreign trade picture are growing U.S. exports. Transportation Department data show that ocean-borne U.S. exports have a significantly lower value per ton than ocean-borne U.S. imports. In terms of tonnage, the top U.S. exports have been chiefly grain, coal and lumber products while the top imports have been minerals and manufactured products. In aggregate, for non-tanker ocean-borne trade, the value per ton of imports has been more than four times the value per ton of exports. Consequently, the growth in the dollar value of U.S. exports is likely to have had a bigger impact on tonnage shipped (and thus on bunker fuel demand) than the growth in the value of U.S. imports.

Kerosine Jet Fuel

DELIVERIES STRENGTHEN IN APRIL.

Deliveries of kerosine jet fuel were up 5.9 percent in April, in line with estimated growth in air travel during the month. For the first four months of the year, however, deliveries were up by only 1.7 percent compared with estimated air traffic growth in the 6-7 percent range.

Above-trend growth in air traffic during recent months has been experienced on both domestic and international routes. This is due in part to the depressed traffic of a year ago. Domestic aircraft miles were low in the spring of 1989 following the Eastern Airlines strike in March. In order to accommodate demand, load factors were relatively high last year, but have since come down by two to three percentage points. Growth in international flights (particularly trans-Atlantic flights) during the same period in 1989 was off following the Pan-Am Lockerbie, Scotland disaster in December 1988. A further contributing factor to growth this year has been air fares, which (as measured by revenues per passenger mile) have come down slightly versus 1989.

Price expectations by purchasers of kerosine jet fuel offer a possible explanation for why deliveries picked up in April. Prices escalated in December and early January due to strong

demand for blending with distillate, but fell steadily in the months after. In the latter half of April, however, prices showed signs of firming; at the same time, deliveries strengthened.

Other Oils

DELIVERIES FALL BY LESS THAN RECENT TREND.

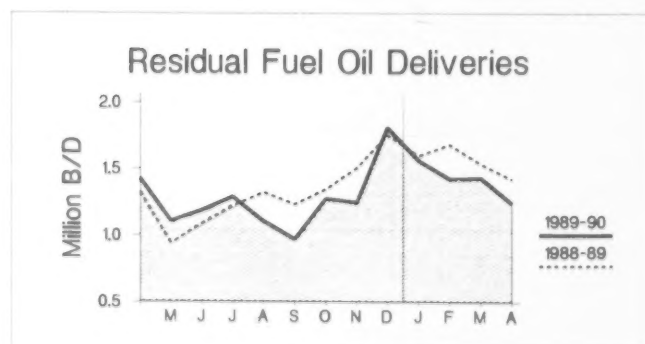
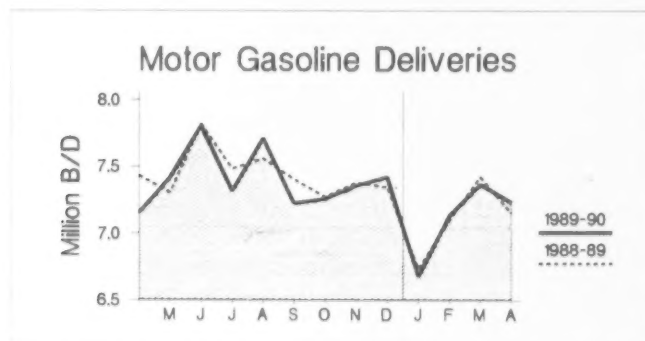
April's deliveries of "other oils" declined only marginally, contrasting with a first quarter drop of about 7 percent.

Though the first quarter's decline was partly weather-related, even on a weather-adjusted basis, the trend for the past three quarters has been about a 4 to 5 percent decline. With April's weather continuing to be warmer than a year ago, which would be expected to have cut into propane usage, only moderate economic growth, and continued lackluster petrochemical feedstock demand, there is little to suggest that underlying consumption trends have changed markedly in the past month or two.

Over a longer perspective, one of the major contributors to "other oils" deliveries has been refinery gas (also known as still

gas). Between 1985 and 1989, increases for refinery gas contributed about two fifths of the roughly 230 thousand B/D increase in deliveries of "other oils". Not a conventional "product" in many ways, its composition is more varied than for most other products and it is not delivered to other users but rather consumed at refineries. However, among the "other oils", it is second only to propane in volume, accounting for nearly 700 thousand B/D in "deliveries" or about one sixth of the "other oils" category.

Many refinery processes produce mixtures of gases, varied in composition, as by-products. Some of these may be extracted and routed for various end uses, including petrochemical feedstocks, gasoline blending, or other purposes—and classified as deliveries of the relevant product. The remainder, however, is put to use at the refinery as fuel and classified as "deliveries" of refinery gas in order to keep petroleum supply and deliveries data in balance. Refinery gas provides a substantial portion of refinery energy input—typically 40 to 50 percent.



SUPPLY ^{1/}

Production

DRILLING SHOWS SHIFT TOWARDS NATURAL GAS.

Alaska and a roughly 350 thousand B/D drop in the lower 48. If Alaskan production a year ago had not been temporarily reduced by traffic restrictions following the tanker accident last March near Valdez, the year-to-year decline for that state would have been an estimated 150 thousand B/D. For the year to date, U.S. crude oil production as a whole would have fallen about 470 thousand B/D, rather than the 370 thousand B/D calculated from the data. This is somewhat less than last year's estimated underlying rate of decline of a little over half a million B/D and reflects a somewhat lesser decline rate for the lower 48 so far this year.

In 1989, lower 48 output had dropped over 400 thousand B/D, while for the first quarter of this year the decline averaged about 340 thousand B/D. That April's decrease was similar to the first quarter's at least suggests that any effect of the recent drop in crude oil prices has as yet not been reflected in domestic crude oil output.

Apparently, higher crude oil prices earlier this year—roughly 20 percent higher than in first quarter 1989—had provided some incentive for drilling new wells and for increased upkeep and servicing of existing production facilities. According to the latest API drilling data, oil completions have been up, year to year, for the past two quarters, the first increases in nearly two years. Oil completions rose 11 percent for the fourth quarter and over 30 percent for the first quarter against an unusually low year-ago level. Gas completions have continued to increase, as they have over the past two years, rising 16 percent for the fourth quarter and over 35 percent for the first quarter.

Gas completions have lately been running at around 3,000 per quarter—for the first time roughly equalling the level of oil completions. Until recently, oil completions in the U.S. had always substantially exceeded gas completions. As recently as 1985, oil completions had out-numbered gas completions by nearly three to one. But with lower oil prices since then and the natural gas market coming more into balance in the last year or two, drilling activity has continued to shift towards natural gas.

Imports

CONTRARY TO TREND, IMPORTS DECLINE.

Crude oil production's 420 thousand B/D decline for April was the combined result of a 70 thousand B/D decrease in

Seemingly at variance with the recent trend, imports dropped slightly in April, year to year.

This, however, followed a nearly 10 percent, above-trend

increase for the first quarter, when imports had reached the highest quarterly level since 1979. April's small decline in imports is explained by differences in inventory changes last year versus this—a year ago, more than 800 thousand B/D in imports ended up in stocks, while this April, inventories rose only 200 thousand B/D.

Even with April's decline, total imports as a share of domestic deliveries still amounted to nearly 49 percent for the year to date, compared with a little less than 45 percent one year earlier.

Crude oil imports maintained their growth, however, rising 253 thousand B/D or 4.5 percent, year to year. Product imports continued to lag behind year-ago levels, falling 348 thousand B/D or about 15 percent. Imports of gasoline and components were down 78 thousand B/D to 359 thousand B/D, distillate, down 58 thousand B/D to 241 thousand B/D, and residual fuel oil, down 137 thousand B/D to 544 thousand B/D.

Refinery Operations

ACTIVITY RISES SEASONALLY FROM MARCH.

Refinery activity began to pick up in April versus March, roughly in line with typical seasonal patterns. Compared

with last April, input to distillation units, at 13.2 million B/D, was up 0.6 percent. Gasoline output also rose seasonally from March levels and roughly equalled that of a year ago. Residual fuel oil output declined slightly, year-to-year, following several months of higher than usual output.

Utilization of capacity in actual operation averaged about 88 percent in April. Utilization of reported capacity was 84.6 percent, up from 83.8 percent last April.

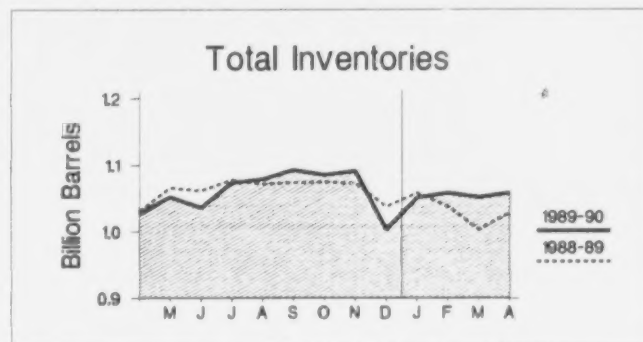
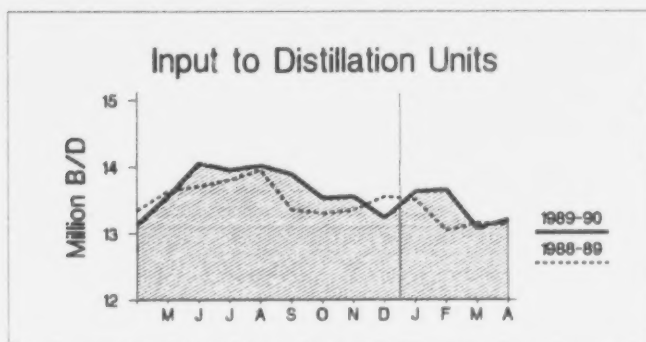
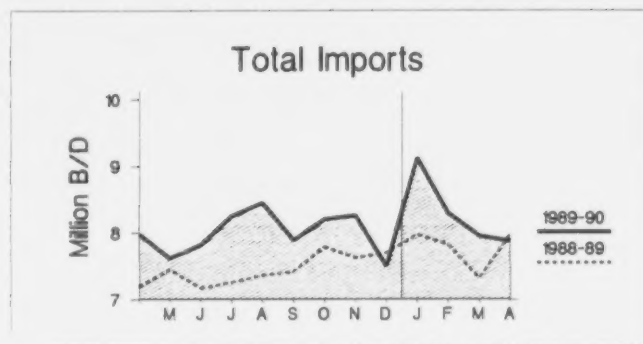
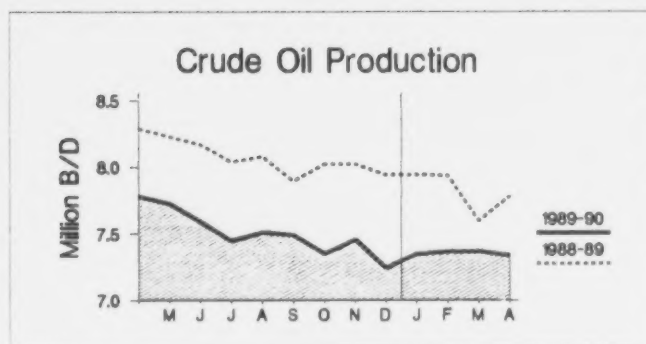
Inventories

CRUDE STOCKS SET RECENT-YEAR HIGH.

Total stocks rose by 6 million barrels for the month, and at 1,058 million barrels, were at

the highest April level in six years. This was mainly the result of high crude oil stocks. Inventories of crude oil, which had already risen 24 million barrels during the first quarter, rose a further 7 million barrels to 372 million barrels, the highest April level since the early 1980s.

Total product stocks remained roughly level during the month. Their month-end level of about 685 million barrels was nearly the same as a year ago and within the 640 to 690 million barrel range of the previous five Aprils. Gasoline stocks fell 8 million barrels for the month, a typical seasonal decline for April. Their level, at 220 million barrels, was within the roughly 210 to 240 million barrel, recent-year range. Distillate stocks fell 6 million barrels to a typical end-of-season level of 96 million barrels.



- 1/ Total supply, i.e., production plus imports adjusted for net stock change is equal to total products supplied from primary storage. Total products supplied from primary storage less exports is equal to total domestic products supplied. Information contained in this report is derived from information published in the API Weekly Bulletin and is based on historical analysis of the industry. All data reflect the most current information available to the API and include all previously published revisions.
- 2/ Includes lease condensate.
- 3/ API data do not include crude oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR (according to the U.S. Department of Energy, the SPR held approximately 583 million barrels as of April 30, 1990).

ESTIMATED UNITED STATES PETROLEUM BALANCE
(Daily Average in Thousands of 42 Gallon barrels)

Products Supplied/Supply From Primary Storage	APRIL			YEAR-TO-DATE		
	1990 ¹	1989 ²	% Change	1990 ^{3R}	1989 ²	% Change
Products Supplied:						
Total motor gasoline	7,230	7,150	1.1	7,098	7,099	0.0
Finished leaded motor gasoline/*	434	912	(52.4)	433	977	(55.7)
Finished unleaded motor gasoline/*	6,796	6,238	8.9	6,665	6,122	8.9
Naphtha-jet	197	200	(1.5)	190	196	(3.1)
Kerosine-jet	1,244	1,175	5.9	1,293	1,271	1.7
Distillate fuel oil.....	3,166	2,973	6.5	3,205	3,276	(2.2)
Residual fuel oil	1,242	1,421	(12.6)	1,416	1,556	(9.0)
All other oils ⁴	3,791	3,794	(0.1)	3,912	4,130	(5.3)
Reclassified ⁵	-150	-152	(1.3)	-103	-170	(39.4)
Total domestic products supplied.....	16,720	16,561	1.0	17,011	17,358	(2.0)
Exports	763	810	(5.8)	796	825	(3.5)
Total products supplied.....	17,483	17,371	0.6	17,807	18,183	(2.1)
Supply:						
Domestic production:						
Crude oil ⁶	7,335	7,755	(5.4)	7,354	7,723	(4.8)
Natural gas liquids.....	1,575	1,670	(5.7)	1,549	1,644	(5.8)
Other supply ⁷	904	795	13.7	1,044	953	9.5
Total domestic supply.....	9,814	10,220	(4.0)	9,947	10,320	(3.6)
Imports:						
Crude oil, total ⁸	5,938	5,685	4.5	5,997	5,309	13.0
Canadian	546	594	(8.1)	572	618	(7.4)
Other.....	5,392	5,091	5.9	5,425	4,691	15.6
Products, total	1,941	2,289	(15.2)	2,319	2,460	(5.7)
Residual fuel oil	544	681	(20.1)	611	780	(21.7)
Other.....	1,397	1,608	(13.1)	1,708	1,680	1.7
Total imports	7,879	7,974	(1.2)	8,316	7,769	7.0
Total supply.....	17,693	18,194	(2.8)	18,263	18,089	1.0
Stock change, all oils	210	823	*****	456	-94	*****
Refinery Operations						
Input to crude oil distillation units	13,203	13,130	0.6	13,384	13,208	1.3
Operable capacity	15,614	15,665	(0.3)	15,576	15,677	(0.6)
Refinery utilization (%) ⁹	84.6	83.8	1.0	85.9	84.3	1.9
Crude oil runs	13,050	12,953	0.7	13,236	13,011	1.7
	1990		1989 ²	% Change from		
Stocks (millions bbls.)	Apr. 30 ¹⁰	Mar. 31 ¹⁰		Apr. 30	Previous Month	Year Ago
Crude oil ⁶	372.1	365.1	339.4	1.9	9.6	
Unfinished oils	107.4	110.2	111.7	(2.5)	(3.8)	
Total motor gasoline/**	220.0	227.5	227.5	(3.3)	(3.3)	
Finished leaded motor gasoline/*	12.6	13.5	29.4	(6.7)	(57.1)	
Finished unleaded motor gasoline/*	168.5	171.8	159.4	(1.9)	5.7	
Naphtha-jet.....	6.4	6.8	6.1	(5.9)	4.9	
Kerosine-jet	41.6	40.8	38.1	2.0	9.2	
Distillate fuel oil	96.5	102.1	98.4	(5.5)	(1.9)	
Residual fuel oil	43.6	43.7	40.2	(0.2)	8.5	
All other oils.....	170.5	155.6	166.5	9.6	2.4	
Total all oils	1,058.1	1,051.8	1,027.9	0.6	2.9	

/1 Based on API estimated data converted to a monthly basis.

/2 Source: U.S. Department of Energy.

/3 January-February, DOE, March-April, API.

/4 Includes crude losses.

/5 Beginning with January 1981, U.S. Department of Energy began using a new data collection system which encompasses a method to ascertain the amount of product reclassified during the production phase. So that there will be no double counting of these volumes, they are subtracted from the total domestic products supplied.

/6 API estimate; includes lease condensate.

/7 Includes Unaccounted-for crude oil, Processing gain and Field Production of other hydrocarbons and alcohol.

/8 Data do not include oil imported for the Strategic Petroleum Reserve (SPR) nor crude oil stocks held in the SPR.

/9 Represents "Input to crude oil distillation units" as a percent of "Operable capacity".

/10 Derived by interpolating API weekly stocks data.

/R Revised.

/* Included in motor gasoline.

/** Includes finished leaded, finished unleaded, and motor gasoline blending components stocks.